THE MEDICAL NEWS.

A WEEKLY JOURNAL OF MEDICAL SCIENCE.

VOL. XLVII. SATURDAY, DECEMBER 26, 1885. No. 26.

ORIGINAL ARTICLES.

RUPTURE OF THE LIGAMENTUM PATELLÆ, AND ITS TREATMENT BY OPERATION.[1]

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THREE forms of injury to the knee are closely allied by their causes, effects, and principles of treatment. These injuries are, simple transverse fracture of the patella, subcutaneous rupture of the tendon of the quadriceps extensor muscle above that bone, and a corresponding lesion of the inferior division of the tendon, known as the ligamentum patellæ. The experience I have gained in the management of two cases of the last-named accident which have fallen under my observation, has led me to a brief study of its literature, from which I have gleaned a few facts of sufficient interest, perhaps, to justify me in bringing the matter to the notice of the Society. At the same time I desire to put on record a number of cases of this injury hitherto unpublished, and to describe an operation for uniting the ends of the divided ligament by suture, which I have performed upon the patient now exhibited before you.

Compared with the fracture of the patella, rupture of the ligamentum patellæ is a rare event. Maydl,[2] whose statistics are the largest I have yet met with, was able to collect only sixty-five examples of the latter form of injury. In this paper I am able to report thirteen other cases treated in the Bellevue, New York, St. Luke's, and Roosevelt Hospitals. In order to form a rough estimate of the comparative frequency of the two forms of injury, I have caused a search to be made of the entire records of the four hospitals above mentioned, and have obtained the following result:

	Fracture of patella.	Rupture of ligamentum patellæ.
New York Hospital	150 cases.	3 cases.
Bellevue Hospital	140 "	7 "
Roosevelt Hospital	44 "	2 "
St. Luke's Hospital	19 "	1 case.
Total	353 cases.	13 cases.

A comparison of these figures gives a ratio of about twenty-five to one.

The relative infrequency of rupture of the patellar tendon may be ascribed chiefly to its great strength and thickness, its relatively slight exposure to direct injury, and to the great mechanical advantage with which indirect violence often acts in causing fracture of the patella. Thus, as has been remarked, when the knee is bent, and a sudden and powerful contraction takes place of the quadriceps extensor muscle, as in endeavoring to prevent the body from falling backward, the patella is acted upon by two forces which, as its upper and lower borders are then free from contact with the femur, may cause it to break, in the same manner as a stick may be broken by bending it across the knee.

The remarks which I wish to make may conveniently take the form of a commentary upon the cases which have come under my care, or which, as will be seen in the appended table, have been gathered from the hospital records above mentioned. I shall give only my own cases in detail.

CASE I.—Patrick F., a car driver, thirty-five years of age, was admitted to my department of the Roosevelt Hospital, October 19, 1882. Ten years previously his right patella had been fractured by striking his knee against the pole of a truck. Five months later the same accident recurred, the final result being a fibrous union between the fragments, which remained separated a distance of two inches. On the day of his admission into the hospital, while in the act of hitching his horses to a street car, he missed his footing in attempting to ascend the platform, and felt something suddenly give way. An examination detected evidence of an old fracture of the right patella, which had been broken about its middle. The distance between the fragments measured two inches, and the interval was occupied by a broad, thick, fibrous band. In the normal situation of the ligamentum patellæ was found a shallow depression, dependent upon a complete rupture of the ligament, which seemed to have been torn close to its inferior extremity. Patient entirely unable to extend the leg. Much tenderness and swelling of knee.

Treatment.—Extension of limb to horizontal position. Ice bag applied to knee.

Oct. 28.—Pain and swelling subsided; vertical suspension of injured limb; rubber bandage to knee.

Nov. 14.—Apparatus removed; limb kept extended, and raised on a pillow. The gap below the patella has filled up.

Dec. 3.—Waterglass bandage applied from ankle to thigh. Patient allowed to walk.

7th.—Discharged from hospital, wearing splint.

Nov. 21. 1885.—Patient reëxamined three years after injury. He states that, disobeying the instructions he had received on quitting the hospital, he removed the splint a few days afterward, and began to use the limb more freely. His knee remained stiff, however, until five weeks later, when, in descending a staircase, and being within two steps of the bottom, he imagined he had reached the end; and, putting forward his left foot, a strain came on his right knee, which was suddenly and forcibly bent. Some pain followed, and he thought he was severely hurt; but the next day he discovered that

[1] Read before the New York Surgical Society, Dec. 8, 1885.

[2] Zeitschrift für Chirurgie, vols. xvii. and xviii., 1882 and 1883.

he was better, and that he could readily flex and extend the leg. At present, as he is now exhibited before you, he can flex it a little beyond a right angle, and can make complete extension with some force. He says he is not aware of any difference in the strength of the opposite limbs. Separation of patellar fragments two inches. Length of ligamentum patellæ same on both sides.

Evidently, in this case, the rupture of the ligamentum patellæ was due to the severe strain to which it had been subjected by the weight of the body, and the forcible contraction of the quadriceps extensor muscle. Whether transverse fracture of the patella usually results from direct or indirect violence is an open question. I agree with those, however, who contend that this injury may generally be traced to the latter cause; and I am sure that the same is true regarding rupture of the ligamentum patellæ. Madyl, in investigating the etiology of this accident, analyzed 44 cases, in only 5 of which the rupture could be attributed to direct violence. Most often it is occasioned by a powerful contraction of the quadriceps, occurring in an attempt to save the body from falling backward; at other times, from falling forward or sidewise. Violent flexion of the leg, accompanying a fall from a height, may produce it; and it has been known to occur spontaneously during an attack of convulsions, as also during forced flexion practised with the object of overcoming an anchylosis of the knee. In the last case muscular contraction cannot be concerned in the rupture, which must be ascribed in part to pathological changes in or around the affected joint. Adhesion and fixation of the patella, or rigidity and contracture of the quadriceps muscle, may, by preventing the descent of the patella when the knee is bent, cause the ligamentum patellæ to be lacerated during forcible flexion, either manual or instrumental.

In some of the cases I have collected from our hospital records, the agency of muscular contraction in causing the rupture is plainly evident. The case just narrated (X.) is one in point. In another case (IV.), the man, while wrestling, was thrown down, striking the left knee. As he fell, he was conscious that something had given way; and on trying to get up, he found himself unable to extend the right, or opposite, leg. Another man (VII.) stumbled while carrying a barrel of flour; and in a violent but unsuccessful effort to save himself from falling forward, heard something snap and felt his knee suddenly give way as he came down with his left leg helpless. Another (VI.), whose heel had been caught between two flagstones, and who squatted quickly to pick up his hat, felt something give way, and immediately fell to the ground, unable to extend his legs. In this case the rupture occurred on both sides. In Case XIII. the man slipped while crossing the street, and did not strike the knee. In Case XII., to be related presently, the injury was certainly due to direct violence, a heavy piece of timber having fallen across the knee. One patient (IX.) fell from a roof, sustaining fracture of the left thigh and rupture of the left ligamentum patellæ. Here the violence may have been direct, as also in Case II., in which a sailor fell from a jibboom a distance of thirty feet, striking his knee; and in Case XI., in which a fireman was buried beneath a falling building, and, on being extricated, was found to have received a fracture of the femur, a rupture of the ligamentum patellæ, and severe contusion of the injured limb. In Case I. the patient fell from a wharf into the water, hitting his knee against a boat. Whether, in the four cases last described, the rupture of the ligament was caused by direct injury, by extreme flexion of the knee, or by muscular contraction, must be a matter of doubt; and, in the remaining examples, the doubt concerning this point must be still greater. Thus, one man (V.), while engaged in carrying a plank, fell upon his left knee; another, who was assaulted and knocked down in front of his lodging house, struck his knee against the doorstep. In Case III., the patient, while walking, stumbled and fell, striking his knee against the ground. Now, in all these cases, the circumstance that the knee was hit seems to favor the supposition that the rupture was occasioned by direct violence. But it is quite likely that such an inference would be wrong, and that the fall upon the knee may have been the result, not the cause, of the rupture. This explanation is corroborated by the probability that, in all these instances, the extensor muscles were forcibly contracted at the moment the accident happened.

It is well known that rupture of the ligamentum patellæ is far more frequent in the male than in the female sex. I have been unable to find more than five published cases in which females have sustained this injury, and the thirteen subjects, whose cases I have recorded, were all males. The relative frequency of the accident in the latter may be accounted for by their greater exposure to its exciting causes, and by the greater strength and activity of their muscles.

In one case (VI.), already mentioned, the rupture took place on both sides simultaneously. Four other cases of this double injury have been recorded, namely, two by Shaw,[1] one by Gibson,[2] and one by Hamilton.[3] In three cases (III., VII., X.), the rupture occurred in persons who had previously suffered from transverse fracture of the patella on the same side. In Case III. the patella had been broken one year previously, and ligamentous union had taken place. In Case VII. the fracture occurred eight months before the rupture, and the uniting band measured two inches in length. In Case X. the fibrous band was likewise two inches long, while a period of ten years intervened between the fracture and the rupture. I have found elsewhere only four other examples of this singular sequence,[4] from which, I think, two conclusions may be drawn. The first is, that a fracture of the patella may establish a predisposition to rupture of the ligamentum patellæ. In Flower's case, in which the rupture took place at the patellar attachment, this end of the ligament seemed to have ossified during the repair of the fracture; and to this

[1] Trans. of Path. Soc. of London, vol. v., 1854.
[2] Gibson, Surgery, vol. i. p. 395, sixth edition.
[3] Hamilton, Fractures and Dislocations, sixth edition.
[4] Nélaton, Archives Générales, 1858, p. 704, Obs. vi.; Flower, Trans. Path. Soc. of London, vol. vii., 1856; Bulley, Med. Times and Gazette, London, 1864; Zeis, Archiv für klinische Chirurgie, vol. vii. p. 755.

circumstance he was inclined to ascribe the predisposition. Such could not have been the explanation, however, in Markoe's case (III.), nor in the one I have reported (X.), as in both of these there was no evidence of ossification of the ligament, which, moreover, was found to be ruptured at its tibial insertion. In the majority of instances, probably, the essential cause of the predisposition is a weakness of the limb induced by the earlier injury, which renders the individual less able to avoid the accidents that determine the later one. The second inference is, that the fibrous bond of union between the fragments of a broken patella may be able to bear a greater strain than the normal patellar ligament. This may be the fact, even when the uniting band is of considerable length, as in the two cases I have recorded. Additional evidence of the occasional strength of the ligamentous union of patellar fragments is afforded by the numerous examples of refracture of the patella in which the second fracture has taken place through a part of the bone hitherto uninjured. It is noteworthy that, when rupture of the ligamentum patellæ has been preceded by fracture of the patella, the two lesions have always been found to exist on the same side of the body. The longest recorded interval between the two accidents is ten years, in Case X.; the shortest, eleven weeks, in Flower's case.

In seven of the cases I have reported, the seat of rupture is definitely stated. In three it took place at the upper, and in four at, or near, the lower attachment of the ligament. In two cases a small fragment of the patella was torn off; in one of these it could be distinctly felt, and in the other it gave rise to occasional crepitus when the ruptured parts were approximated. These results are in accordance with the general rule, that the ligament is far less liable to give way in its middle than at one of its extremities—the lower being involved in about 50 per cent. of all cases. The rupture, wherever it occurs, is usually complete; my notes of thirteen such cases furnish only a single instance in which a portion of the ligament remained intact.

The symptoms were in every case so plain as to leave no doubt concerning the nature of the injury. In one, the amount of retraction of the patella is said to have been slight; in another, it was two inches; but in all the gap between the severed parts could be distinctly made out. Prominent among the symptoms is inability to extend the leg. So far as I know, this loss of power is absolute when, as is usual, the rupture is complete. In transverse fracture of the patella, on the other hand, it occasionally happens that some power of extension remains immediately after the accident. An illustration of the preservation of this function to a remarkable degree came to my notice a few weeks ago, when a gentleman entered my office to consult me about an injury to his knee, which he thought he had sprained a few hours previously while playing in a tennis court. In the meantime he had been able to walk, and had gone down town to the stock exchange, and returned in a street car without suspecting the gravity of his injury, which, to my surprise, I found, on examination, to be a transverse fracture of the patella. The fragments, however, were in contact, and bony crepitus was well marked. We can readily understand why no such exception should ever be met with when the ligamentum patellæ is completely ruptured, since, under these circumstances, nothing is left to transmit the force exerted by the quadriceps, except the insignificant aponeurotic attachment of a few of its fibres to the tibia.

The condition of the knee-joint was noted in six cases, and, in all but one, the joint is said to have been distended and painful soon after the accident. Whether, as seems probable in this form of injury, the laceration extends into the joint, and whether the distention of the latter is due to the presence of blood or of inflammatory effusion, are points which have not yet been demonstrated. In any case, the swelling generally subsides, under appropriate treatment, in the course of a week or ten days.

The treatment adopted in most of the cases herewith reported was essentially the same as that usually followed in fracture of the patella, comprising extension of the knee, elevation of the injured limb, cold applications to the joint, and the use of pads, straps, and bandages for the purpose of approximating the ends of the ruptured ligament. As in the case of fracture of the patella, the retraction of the upper end appears to be largely owing to distention of the knee-joint with fluid; and, until this has been absorbed or otherwise got rid of, any attempt to force it downward will prove futile, and perhaps injurious. In one case (III.) in which compresses and tight bandages were employed very early, they certainly caused an aggravation of the symptoms, which compelled a suspension of this part of the treatment for a period of four weeks. The final result, however, was satisfactory.

As a rule, such treatment as that described is followed by a fair amount of recovery of the functions of the injured limb. I regret that the notes of some of the cases I have collected are so defective regarding the results obtained as to possess little or no value. We know, nevertheless, that the continuity of the ruptured parts is usually restored in the course of six or eight weeks, the knee meanwhile gradually regaining its normal size and shape. Afterward the joint generally becomes movable, and the power of extension returns to a variable degree. Occasionally both the physical and functional results are excellent, as in Weir's case (XIII.), in which, sixteen years after the injury, no difference could be discovered by measurement between the length of the patellar ligaments of the opposite sides, and in which the patient declared that the limb injured was quite as good as its fellow. Such a result, however, is exceptional, and the patella is apt to remain permanently more or less retracted, sometimes to the extent of several inches. Generally, as after fracture of the patella, the impairment of the power of extension bears a direct ratio to the length of the fibrous band by which the severed parts are united; but this rule is not without exceptions. A case has been recorded in which a lengthening of six centimetres did not prevent complete voluntary extension of the leg; on the other hand, the power of extension may be seriously impaired, even when the uniting medium is short and firm. Here the disability is doubtless owing

to some complication or sequel of the rupture, such as chronic inflammation of the knee-joint, atrophy of the quadriceps muscle, or adhesions between the opposed surfaces of the upper part of the synovial sac which lies underneath the quadriceps. In such cases flexion, as well as extension, is usually limited.

It is impossible to determine in what proportion of cases the power of extension is greatly damaged; but the number is larger than one would infer from a perusal of the published reports, in which very inferior results are often put down simply as "cures." We may be sure, however, that in a certain number of instances in which no union takes place between the ruptured parts, the power of extending the leg will be entirely abolished, and the act of walking rendered impossible without assistance. Hitherto such cases have been treated by some form of mechanical apparatus designed either to prevent the knee from being bent, or to make artificial extension by means of an elastic force; but, so far as I am aware, no attempt has been made to reëstablish the function of extension by an operation intended to restore the continuity of the ruptured ligament. Maydl states that, in a posthumous work by Veslingius (*Obs. Anat. et Posthum.*), published 1740, he found a notice of a case in which tenorraphy of the ligamentum patellæ was performed with success. He does not say, however, whether the injury was old or recent, and I have been unable to procure a copy of the work to which he alludes. In the case of the patient now exhibited I operated eight months after the accident, by bringing together the separated ends of the ruptured ligament, and uniting them by sutures. The history reads as follows:

CASE II.—Charles K., a healthy man, forty-four years old, by occupation a rigger, was admitted under my care in the Roosevelt Hospital seven months ago, and gave the following history. In September, 1884, a heavy piece of timber fell across his right knee, and he was at once disabled and could neither walk nor extend the leg on the injured side. The accident occurred at sea, and the patient received no treatment beyond confinement in bed on account of pain and swelling of the knee. In December he entered a hospital in Calcutta, where the joint was incised to allow the escape of fluid. He recovered from the operation, but remained as weak in the knee as before, being unable to walk except when he wore a splint applied to the back of the limb in order to keep it straight. When he came under my charge he was still wearing a leather splint, which, although apparently well suited to its purpose, did not render locomotion easy. The gait was slow and unsteady, and the patient, otherwise in good health, was greatly discouraged in consequence of his infirmity, and declared his willingness to undergo any operation in the hope of regaining the usefulness of his limb. On examination the right knee was found to be tender on pressure, and moderately swollen from an accumulation of fluid in the joint. The patella was displaced upward about two inches; it was freely movable laterally, but could not be drawn down to its normal position. Above, its relations with the quadriceps could be readily distinguished, but below, it evidently had no connection with the tibia.

As nearly as I was able to ascertain, the ligamentum patellæ had been completely ruptured close to its inferior point of attachment, and no attempt had been made to repair the injury. In place of the ligament there was a gap into which the skin could be readily depressed until the fingers encountered the femoral condyles. The power of extending the leg was entirely absent, and the patient, when lying upon his back with his legs extended, was unable to raise his foot from the bed.

On May 19th last, I commenced an operation by making a longitudinal incision, six inches in length, in the median line on the anterior aspect of the knee, the centre of the incision being opposite the lower edge of the patella. The cut was subsequently lengthened both upward and downward until it measured nine inches. On exposing the injured parts, in doing which the knee-joint was freely opened, it was found that the ligamentum patellæ had been torn away from the spine of the tibia, which was now covered by only a small amount of dense fibrous tissue, sufficient, nevertheless, to allow a firm hold for sutures. A little more than an inch of the ligament, in good condition, was normally attached to the patella. There was a complete lack of union between the ends of the severed ligament, and a great deal of difficulty was experienced in bringing them together after they had been freshened with the knife. Before the upper end could be drawn down and placed in contact with the lower one, it became necessary to make many deep oblique and transverse incisions into the median and lateral portions of the quadriceps; and even when this had been done as far as was deemed prudent, considerable force was required to secure apposition, which was maintained by two sutures of stout silver wire, the ends of which were twisted, cut short, bent flatwise, and buried in the wound. The mucous and alar ligaments were found redundant, and were partly removed with the curved scissors. The incisions in the capsule of the joint were closed by catgut sutures, and the external wound was united, except at its upper and lower ends, in the same manner. Two bone drains, one on each side, were inserted into the joint through openings made for that purpose, and one into each extremity of the median incision. During the operation a solution of mercuric bichloride, 1 : 1000, was applied freely to the wound, which was afterward covered with iodoform gauze. The limb was next enveloped in a moss-bag, moistened with the bichloride solution, and finally fastened to a long straight wooden splint, provided with a foot piece. Previous to the operation the knee and adjacent parts had been shaved, scrubbed several times with soap and water, then washed with oil of turpentine, and finally disinfected with a solution of mercuric bichloride.

The subsequent progress of the case was uneventful, except that, during the first four days, the patient complained of almost constant pain. This was so severe on the second day that I removed the dressing and examined the wound, which, however, showed nothing which would account for the man's suffering.

The drainage-tubes were cleared of a few clots of blood, and a fresh dressing like the first was applied. On the fourth day the pain began to diminish, and soon afterward it disappeared altogether. The wound was not dressed again until July 7th, seven weeks after the operation. It was then discovered that the wound had long before healed by primary union, except at its lower angle, where a minute skin ulcer remained, marking the site of one of the drainage-tubes. The wounds made for draining the joint were entirely closed. The patella was movable, as was also the knee-joint; but no attempt was made to bend the leg beyond a few degrees. On July 21st the patient was allowed to get up, wearing a water-glass bandage. This could not be worn with comfort, and, a week later, was replaced by a leather splint, with which the patient walked about without much difficulty. He continued to use the splint until October, when he laid it aside. Meanwhile the knee has assumed nearly its natural size and shape, and it is evident that continuity of the ruptured parts has been reëstablished.

My house surgeon, Dr. George S. Huntington, has, at my request, furnished me with the following precise description of the patient's present condition, which can be verified by the members of the Society:

Measurements.—Thigh: Circumference at upper border of patella, right thigh 13¾″, left thigh 14″; circumference at junction of middle and lower third, right thigh 13¼″, left thigh 15¼″.

Knees: Circumference of knee-joint over the patella, on both sides 13.9″.

Leg: Circumference at junction of upper and middle third, right leg 12¾″, left leg 13″; distance from tip of internal malleolus to lower border of patella, right side 15.6″, left side 14.4″.

Functional Result.—A line drawn from the middle of the upper border of the great trochanter to the centre of the outer surface of the external condyle is taken as the axis of the thigh. The axis of the leg is represented by a line drawn from the tip of the external malleolus to a point just anterior to the superior tibio-fibular articulation. On the left side in full extension of the leg, these lines form with each other an obtuse angle of 174°. On the right side, when patient is in the recumbent position, the amount of voluntary extension is as follows: The axis of thigh and leg forming an obtuse angle of 148°. When the patient is in a sitting posture, the amount of extension is increased to 155°.

Passive motion: Extension of leg possible to the normal limit. Flexion to a right angle. Rotation of the leg the same on both sides.

I will add that, in walking, the patient can easily and completely extend the leg: that for several weeks past he has been able to go up and down stairs without assistance; and that his limb is so steadily gaining in strength and freedom of action as to warrant the hope of further improvement. At all events, I think it will be admitted that, in this case, the operation has conferred a great benefit upon him by restoring the usefulness of the limb; and that, in similar cases, suturing of the ligament deserves a further trial. The principal difficulty likely to be encountered, when the injury is not of recent date, is that of bringing into contact the ends of the ruptured ligament. In my case this was accomplished only after the rectus and the vasti muscle had been extensively scored, and even then the parts could not be brought together without decided tension. I am inclined to believe that the pain the patient complained of during the first four days after the operation was caused by the traction of the sutures, and that it was relieved only when the sutures had cut through and receded far enough to moderate the existing tension. And, although I neglected to note the level of the patella immediately after the operation, its present elevation may be held as proving that the segments of the ruptured ligament separated from each other to a considerable extent after they had been sutured, the gap so formed being now occupied by newly formed ligamentous tissue, like that which, in ordinary cases of this injury, is furnished to repair it.

That which has most interested and gratified me in this and in several other severe operations I have performed, in which the knee-joint has been involved, is the impunity with which this articulation may be opened, and indeed somewhat roughly handled, provided antiseptic precautions are scrupulously observed. This fact was especially forced upon my attention in a case of old fracture of the patella, in which I wired the fragments, one year ago, in the Roosevelt Hospital. The operation was performed in the usual manner, but the fracture was found to have been comminuted, and the fragments could not be brought into apposition without much difficulty, nor until the quadriceps muscle had been extensively exposed and repeatedly cut, in order to obtain the necessary elongation. Meanwhile, the bleeding was free, the knee-joint was frequently sponged out and irrigated, and the operation was prolonged, as well as severe; yet the patient recovered without an unpleasant symptom, under the use of a single dressing; and when this was removed, at the end of eight weeks, I discovered that the wound had healed throughout by the first intention, and that neither suppuration nor adhesive inflammation had taken place within the joint, which had a limited range of easy motion. Such a case affords, according to my judgment, indubitable proof of the marvellous improvements in operative surgery which have been wrought by antiseptic methods; and, when I see it stated in a standard American text-book, published only three months ago, that "the alleged superiority of the antiseptic method cannot be said to have been as yet demonstrated," I am amazed at the author's incredulity. Even among those who practise antiseptic surgery, however, some hesitation is occasionally felt about opening the larger joints, and operations involving the healthy knee-joint are at present regarded by many with the same kind of apprehension which, not a great many years ago, deterred surgeons from invading the peritoneal sac. The latter procedure is, as we now know, reasonably safe, and I cannot doubt that the operation of opening the knee-joint is already, when properly performed, far safer. I confidently anticipate the time when skilful and careful surgeons will be able to divest it of all danger either to life or limb; and,

Cases of Rupture of the Ligamentum Patellæ.

No.	Hospital.	Age and sex.	Date.	Observer.	Side of rupture.	Cause.	Condition.	Treatment.	Results.
1	New York.	32, M.	1844	.....	Right.	Fall from a wharf into water, striking knee against a boat.	Joint much swollen; rupture at patellar insertion, carrying away a minute fragment of bone; patella not much retracted, and easily brought down.	Leeches, poultices, low diet; at end of ten days pads and straps.	Firm union; discharged "cured" at end of four months.
2	New York.	26, M.	1854	Watson.	Right.	Fall, thirty feet, striking knee.	Rupture of ligament just above tibial insertion; joint distended and painful.	Extension, cold lotions; crutches after four weeks.	Discharged "cured" at end of two months.
3	New York.	32, M.	1859	Markoe.	Left.	Slipped and fell, striking left knee.	Marks of fracture of patella sustained a year previously; fragments united by ligament; patellar ligament ruptured at tibial insertion; joint greatly distended and painful.	Single inclined plane; evaporating lotions; compress and bandage, which had to be removed on account of pain; reapplied four weeks later.	Discharged eleven weeks after accident, with firm union.
4	Bellevue.	60, M.	1870	Hamilton.	Right.	While wrestling, was thrown on left knee, and felt something give way; on attempting to get up, was unable to extend right leg.	Ruptured ligamentum patellæ.	Plaster-of-Paris bandage; figure-of-8 bandage to knee.	
5	Bellevue.	40, M.	1874	.....	Left.	While carrying a plank, patient fell, striking left knee.	Complete rupture of ligament; patient unable to stand or to extend leg; no pain or distention of joint.	Plaster-of-Paris bandage day after accident; renewed three times, and finally removed at end of six weeks.	Ligament united to tibia; knee somewhat stiff when patient was discharged eight weeks after injury.
6	Bellevue.	50, M.	1874	Wood.	Both.	Patient, whose heel had been caught between two flagstones, squatted quickly to pick up his hat, felt something give way, and fell to the ground helpless.	Each patella retracted from rupture of ligament; any extension of legs absolutely impossible.	Commenced seven months after injury; posterior splint, figure-of-8 bandage.	Left hospital a fortnight after admission; result not known.
7	Bellevue.	22, M.	1874	.....	Left.	Patient while carrying a barrel of flour, stumbled and made a powerful effort to save himself from falling forward; heard something snap as he fell; found left leg helpless.	Signs of old fractured patella eight months previously; firm fibrous union two inches in length; immediately below patella a groove corresponding with ruptured ligament.	Posterior splint.	
8	Bellevue.	52, M.	1878	S. Smith.	Left.	Was knocked down, striking knee against doorstep.	Much swelling and effusion in joint; rupture of ligament close to its attachment to patella.	Posterior splint; ice bag; afterward figure-of-8 bandage, and traction with adhesive plaster.	Patient discharged with stiff knee eight weeks after injury.
9	Bellevue.	10, M.	.....	.....	Right.	Fall from a roof.	Fracture of left femur; rupture of right ligamentum patellæ, incomplete, a few fibres only remaining intact.		
10	Roosevelt.	35, M.	1882	Sands.	Right.	Slipped while getting on a street car, and felt something give way.	Marks of old fracture of patella; fibrous uniting band two inches long; ligamentum patellæ ruptured near its tibial insertion.	Ice bag; extension, at first horizontal, afterward vertical; rubber bandage.	Recovery, with useful limb.
11	Bellevue.	34, M.	1884	Dennis & Bryant.	Left.	Buried beneath a falling building.	Rupture of ligamentum patellæ; fracture of lower third of femur; severe contusion of limb.	Double inclined plane for thirteen days; Buck's extension twenty-five days; plaster-of-Paris bandage six weeks.	Two years after injury patient has a stiff knee with the leg extended; flexion easy to the extent of 5–10 degrees, where it is suddenly checked, apparently in consequence of adhesion and shortening of the quadriceps at seat of fracture. Ligamentum patellæ reunited and firm, being lengthened only ½ an inch. Patella movable laterally, but not downward Contraction of quadriceps causes no tension of ligamentum patellæ.
12	Roosevelt.	44, M.	1885	Sands.	Right.	Blow from a heavy piece of timber.	Eight months after accident power of extension entirely lost; patella retracted two inches; a depression in place of ligamentum patellæ which seems to have been ruptured near tibial attachment.	Joint opened; ligament sutured	Six months after operation power of extension regained sufficiently to enable patient to walk with ease.
13	St. Luke's.	47, M.	1869	Weir.	Left.	Slipped while crossing street; did not strike knee; walked with assistance twenty or thirty feet after accident.	Rupture of patellar ligament.	Limb extended in plaster-of-Paris splint for six weeks.	Began to walk soon after removal of splint. Sixteen years later (1885) injured limb as good as other. Ligament same width and length as other by measurement.

whenever this period arrives, our time-honored, but clumsy, tedious, and uncertain method of treating both fracture of the patella and rupture of its ligamentous attachments may well be abandoned in favor of some form of operation calculated to secure an immediate union of the divided parts.

ADDITIONAL NOTES ON ABSORBENT COTTON AS AN ELECTRODE COVERING.

BY G. BETTON MASSEY, M.D.,

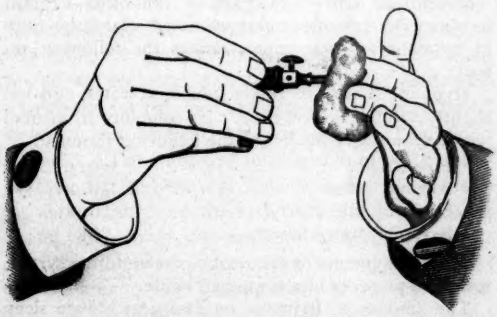
ELECTROTHERAPEUTIST TO THE PHILADELPHIA ORTHOPÆDIC HOSPITAL AND INFIRMARY FOR NERVOUS DISEASES.

SINCE the use of absorbent cotton for the above mentioned purpose was recommended by the writer, in a note published in THE NEWS, of February 7th last, quite a general adoption of the suggestion has occurred among electrotherapeutists. A further experience of nearly a year since the publication of the note convinces me that the suggestion, though relating to a minor detail, is one of no little practical importance, and should be invariably adopted for electrodes of all sizes when a covering is required.

It has been objected that absorbent cotton is inferior to sponge, in covering the two larger sized electrodes of Erb's scale, since it cannot be so well retained in place. For these large electrodes, a method different from the one that has been described should be used. A bundle of the cotton should be unrolled, laid flat on the table, and a piece of appropriate size cut out with a pair of scissors, allowance being made for the necessity of covering the edges by lapping. This piece, and another on top of it to add to the elasticity, can be readily retained in place by a few turns of fine spool cotton wound over both back and face; or, more neatly, by stitching the edges across the back. Two or three layers make a more serviceable covering for these large electrodes than a single layer, and it need not be feared that additional layers will add much to the resistance of the circuit, as the experiments described below show that wet cotton deprived of its natural oil is a much better conductor of electricity than wet sponge.

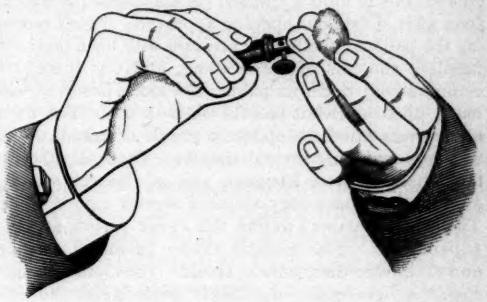
Dr. Angell, of Rochester, New York, has suggested to me that cotton may be kept in place on the ordi-

FIG. 1.



nary sized disks by means of small stationer's rubber bands to clasp it about the shank, permitting a ready renewal. I have, however, found the *original* method by twisting about the shank, as shown in the accompanying illustrations, to be both neater and more convenient. Fig. 1 illustrates the placing of a pinch on the face of a disk, and pressing the edges over. Fig. 2, the twisting motion that fixes the edges about the shank.

FIG. 2.



The resistance offered by pairs of sponge-covered and cotton-covered electrodes may be readily compared by anyone possessing a milliampèremeter simply, without the necessity of resorting to elaborate measurements. The accompanying table exhibits the results of such an experiment with two pairs of medium sized electrodes, covered respectively with sponge and cotton, and equally moistened with simple water. The circuit was completed by bringing the electrodes directly together:

Battery of 20 volts; circuit completed by:	Number of resultant milliampères in the circuit.		
	Electrodes lightly touched together.	Electrodes pressed together.	Electrodes heavily pressed together.
Electrodes covered with sponge	5	15	22
Electrodes covered with absorbent cotton . .	24	28	31

The results depicted show that 31 milliampères were obtained from 20 cells when the cotton poles were heavily pressed together, while but 22 were obtained from the same number of cells when the sponges were used. The table also shows the great variation in the current under ordinary accidental variations of apposition when the sponges were in circuit—from a minimum of 5, to a maximum of 22 milliampères: a variation quite undesirable in a number of delicate applications of this current for diagnostic purposes, and in the treatment of cranial affections.

1502 ARCH ST., PHILADELPHIA.

MEDICAL PROGRESS.

EPILEPSY AS A SEQUENCE OF DISEASED TEETH.—The literature of epilepsy contains some fifteen cases in which this disease was cured by the extraction of one or more teeth, but in none of these cases is it proven that the disease of the teeth was the direct

cause of the attacks. The following case, recorded by SCHWARTZKOPFF (*Deutsche Monatsschr. f. Zahnheilk.*, Sept. 1885, Heft 3), is apparently conclusive in this regard:

The patient, a man, aged twenty-seven, suffered severe pain in the right upper middle incisor, which was filled soon after. Thereupon appeared a swelling on the adjacent portion of the hard palate, which increased in size until it reached the soft palate, in which, soon after, a fistulous opening appeared. Every morning the patient expelled, by pressure with his finger, the purulent contents of the swelling, and was thereafter comparatively free from pain. The tooth, however, was loose, and somewhat painful when in use. Ten days after it was filled an epileptic attack occurred, which was repeated after several months. Gradually the attacks became more frequent, and in eighteen months after the first attack they occurred several times a week. The fistula remained during this entire period, and the patient used, under medical advice, bromides, atropia, and other remedies, without result. The tooth was then extracted, whereupon the fistula healed, and the epileptic attacks have not returned, although the extraction occurred four years ago.—*Centralb. f. Chirurgie*, Nov. 21, 1885.

TRASTOUR'S MIXTURE FOR BRONCHIAL CATARRH.—

Calcium iodide	1 part.
Lime-water	20 parts.
Distilled water	80 "

A soupspoonful before each of the two chief meals in a glass of diluted wine, or in milk. The use of the mixture must be continued for some time, and should be combined with laxatives, thoracic counter-irritation, and such other remedial agents as may be indicated.—*L'Union Médicale*, Nov. 19, 1885.

DISINFECTION OF APARTMENTS BY VOLATILIZED CORROSIVE SUBLIMATE.—DELBASTAILLE, in *The Annales de la Société Médico-chirurgicale de Liège*, highly recommends the method of disinfection employed by Koning, of Göttingen. This procedure consists simply in closing the doors and windows of the apartment, and then throwing about two ounces of bichloride of mercury upon a pan of live coals. The room is to be quitted immediately, and should remain filled with the vapors of the sublimate for three or four hours. It is then aired for several hours, the ordinary precaution being taken to prevent the entrance of the corrosive vapor into the respiratory passages. In order to prevent injury from such portion of the sublimate as may still cling to the room, the subsequent volatilization of sulphur in the apartment, in the ordinary manner, is desirable.—*L'Abeille Médicale*, Nov. 30, 1885.

CHRONIC CAFFEINISM.—In a paper recently read before the *Société Médicale de Reims*, GUELLIOT has analyzed the effects of the habitual excessive use of coffee, and pointed out certain resemblances and differences between the results of this and those of chronic alcoholic intoxication.

Passing over the familiar temporary erethism produced by coffee in those not accustomed to its use, we find that this beverage, taken in large and repeated doses, induces:

1. In men, sexual apathy, and even impotence.

2. In women, leucorrhœa. Little effect is exerted upon menstruation, and none upon either fecundity or the course of pregnancy.

The victim of caffeinism never presents the hebetude of ethylism; the face is pale and the eyes brilliant. Emaciation, or a tendency thereto, is marked, for there is no fat caffeinism. The various discomforts experienced in the morning by the typical alcoholic are here absent. The symmetrical anæsthesia of the extremities so characteristic of chronic alcoholism is rarely observed; on the contrary, the troubles of sensation take the form of hyperæsthesias and neuralgias.—*Revue de Thérapeutique*, Dec. 1, 1885.

PUPILLARY SYMPTOMS IN CHOLERA.—COSTE, of Marseilles, has made the following interesting observations in the course of an extended study of cholera during the recent epidemic in his city:

1. During the algid stage, even with cyanosis, if the pupils remain mobile, the stage in question will be successfully passed, and in the majority of such cases recover.

2. If, on the contrary, in the algid stage of cholera, the pupils remain contracted and motionless, or dilated and motionless, the patient invariably succumbs during the period of algidity.—*Archives Générales de Méd.*, Dec. 1885.

PTOMAINES OF CHOLERA.—At the session of the Académie de Médecine, on November 3d, was presented an account of the researches of MM. NICATI and RIETSCH, which may be thus summarized:

1. The injection into the veins of a healthy animal of an extremely minute quantity of a pure culture of the comma-bacillus will produce the characteristic choleraic symptoms, and ultimately death.

2. From such pure cultures may be extracted, by the method of Stas, a fluid ptomaine capable of producing the same effects.

3. From the liver and blood of cholera patients dying in the algid stage they have extracted a similar ptomaine, producing precisely the same effects on the lower animals.—*Archives Générales de Médecine*, Dec. 1885.

METHOD OF ADMINISTRATION OF HYPNONE.—VIGIER, to whom Dujardin-Beaumetz presented a large quantity of hypnone for experiment, makes the following report:

Hypnone is very sparingly soluble in water, and but slightly soluble in glycerine. Its solubility in alcohol permits the establishment of the following formula:

Hypnone	gtt. j.
Alcohol fortior	gtt. xvj.
Syrup of wild cherry	gtt. xvj.
Syrup of orangeflowers . . .	f℥j.

Add the hypnone to the alcohol, then add the syrups, mix, and preserve in a stoppered bottle.

The amount of hypnone necessary to induce sleep varies from four to ten drops, taken at one dose. Fractional doses are not efficient.—*Gaz. Hebd. de Méd. et de Chirurgie*, Nov. 27, 1885.

THE MEDICAL NEWS.

A WEEKLY JOURNAL

OF MEDICAL SCIENCE.

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SATURDAY, DECEMBER 26, 1885.

THE TREATMENT OF INTRACRANIAL HEMORRHAGE.

DR. C. B. WETHERLE, of St. Paul, Minnesota, reports in the *Northwestern Lancet* for November 15, 1885, a fatal case of injury to the head, in which he failed to secure the concurrence of the consultants in his wish to supplement one opening with the trephine by others, when the former proved insufficient for the removal of a clot and the arrest of hemorrhage.

The main points in the case were these: A man fell from a truck, and struck his head against the wheel. He rose and walked a short distance, and then became unconscious. His breathing soon became stertorous, with a "suggestion of Cheyne-Stokes respiration." His pupils were moderately dilated; and, on being moved, he had some slight convulsive twitchings. On examining the head, a small opening communicating with a fissure of one parietal bone was found. The pulse was 80, full, hard, and regular. In two hours the temperature was noted to be 104° in the mouth. The small wound was enlarged, and a single opening made with a trephine. About two drachms of coagulated blood were removed, and a trickling out of bright fluid blood followed. The pulse now increased in rapidity to 120 beats in the minute, and "the Cheyne-Stokes respiration became more marked." For fear of causing a fatal hemorrhage, the surgeons consulting with Dr. Wetherle refused to agree to another application of the trephine. The patient died twenty-two hours after the accident, and at the autopsy a clot about six inches long was found between the dura mater and the cranium, and one the size of an almond on the surface of the pia mater. The former was due to hemorrhage from a branch of the middle meningeal artery. As might be expected, the reporter refers to the recent paper of Dr. John B. Roberts, advocating more active interference in cases of injury of the head, and regrets that his judgment was overruled by his colleagues.

We call attention to this case because the study of the surgery of the skull is now at what will probably prove to be an important epoch in its history. In regard to the phase of it suggested by the experience of Dr. Wetherle we can hardly do better than to refer our readers to the admirable and comprehensive paper of Wiesmann, of Zurich: "Ueber die modernen Indicationen zur Trepanation mit besonderer Berücksichtigung der Blutungen aus der Arteria meningea media," published in the *Deutsche Zeitschrift f. Chirurgie*, Bd. xxi., xxii., 1885. It will be observed from the title of this paper that it deals especially with the matter of bleeding from wounds of the meningeal artery. This is studied exhaustively from a mass of statistics bearing upon its causes, symptoms, diagnosis, prognosis, and treatment. In regard to some of the points dwelt upon by Wiesmann we think it worth while to say a few words. In the first place, as to the causes of bleeding from the meningeal arteries. To the common traumatisms, in which there is an obvious lesion of the skull, must be added those injuries which, as we have recently seen in speaking of fractures by so-called counterstroke, alter the shape of the skull without breaking it. The possibility of the rupture of bloodvessels within the skull in this way has been denied, and that most recently by Marchant in 1881. But it was recognized long ago, allusion to it being made in some of the oldest writings; and new cases in which it has occurred will be likely to be discovered, when the possibility of its occurrence is recognized and search is made for it.

Passing by a number of interesting points discussed by Wiesmann, we desire to call attention to some in regard to the diagnosis of bleeding from the middle meningeal artery. Of course when this is associated with a fracture, in the course of the artery, and accompanied by the symptoms of pressure, the diagnosis is easy enough. But the fact must not be overlooked that the signs which confirm the suspicion of the formation of a clot, in the case just mentioned, may suffice to indicate its formation almost as clearly when there is no opening in the skull at all. The most important of these signs are those of which we have recently spoken, in discussing compression of the brain in THE MEDICAL NEWS, November 14, 1885. Thus we have the evidences first of irritation, and then of paralysis of the centres of the vagus and vasomotor nerves in the brain. The pulse under the influence of a comparatively rapid increase of intracranial pressure becomes slow, hard, and tense. The respiration becomes slow, labored, and stertorous; and—a point

to which we have not yet adverted—the temperature sometimes undergoes a notable rise, due to irritation of the heat centre. In this connection we would refer to an interesting paper by Dr. W. Hale White, on "The Theory of a Heat Centre from a Clinical Point of View," which appears in *Guy's Hospital Reports* for 1884.

One of the most important points in the diagnosis of hemorrhage within the skull is the brief period of freedom from manifestations which indicate severe injury of the brain. As in the case of Dr. Wetherle, it is often recorded that a patient, after a fall or a blow, has stood erect, or walked a certain distance, and seemed, indeed, to have received no great hurt. In such cases the symptoms of danger come on a little later, and this very delay points almost infallibly to an intracranial hemorrhage. In Dr. Wetherle's case, it will be observed, not one of the elements of diagnosis which we have mentioned was wanting.

In regard to the treatment of injuries of this sort, it is interesting to note that Wiesmann found that, out of 147 cases treated expectantly, 131 died; that is, about nine-tenths. Of 110 cases treated actively, only 36 died, or about one-third. Further, he shows that in the majority of the cases which ended in death the extravasation was not reached, and of course it was not removed. These figures certainly appear to justify his conclusion that operative interference, either by removal of fragments or resection of the skull, is to be carried out whenever there is a certainty, or a very strong suspicion, that there has been a rupture of, and hemorrhage from, the middle meningeal artery. He does not hesitate to recommend an operation even when a blow has been inflicted upon one side of the head and the symptoms point to a rupture of the artery on the other. The operative procedure which he advises includes removal of any clot which has formed, controlling the hemorrhage, washing out the cavity, introducing a suitable drainage tube, and closing the wound with perfect antisepsis. The best way to control the hemorrhage is by means of a ligature, or by acupressure, or by an aseptic tampon of iodoform gauze.

We do not wish, any more than does Wiesmann, to occupy the position of one who would advise going in search of a suspected bleeding point with the trephine; but in view of the cases he has adduced, and of those cited in the remarkable paper of Quesnay, published more than a hundred years ago, on "Multiplicité de trépans," in the *Mém. de l'Académie royale de Chirurgie*, tome i., we cannot hesitate to recommend the question as to the propriety of bolder interference in cases of known or suspected hemorrhage from the middle meningeal artery to the renewed consideration of surgeons.

THE BACILLUS OF SYPHILIS.

ALTHOUGH scarcely a year has passed since the announcement, by Lustgarten, of Vienna, of a microorganism in connection with syphilitic products, there are already numerous communications on the subject, and the claim of this bacillus to be admitted into the ranks of the specific microbes has been vigorously contested. Lustgarten attempted to show the presence in syphilitic processes at all stages of a bacillus, which presented certain peculiarities in form and color relations, but of which, however, cultures could not be obtained.

The observations of DOUTRELEPONT and SCHÜTZ in Germany, and of BABIES, GIACOMI, and LELOIR in France, confirm the statement of Lustgarten. ALVAREZ and TAVET, pupils of Cornil, state in the October number of the *Archives de Physiologie*, that they have failed to find the bacilli in sections of syphilitic growths, but have been able to demonstrate them in the secretions of chancre, mucous patches and ulcers, occasionally in other pathological secretions, as soft chancres, and herpes preputialis, and in the normal secretions of the genital organs, the smegma of the glans penis, and in the secretion of the labial folds. Morphologically, as well as in color relations, the bacilli of these three categories, syphilitic, non-syphilitic, and normal genital secretions, are identical. KLEMPERER, of Leyden's clinic, has published in the *Deutsche med. Wochenschrift*, No. 47, conclusions similar to the French observers, confirming their statements of the identity of the smegma bacillus with the form described by Lustgarten. In the same journal, No. 48, MATTERSTOCK, on the other hand, while admitting the similarity of the smegma bacilli with some of those in syphilitic secretions, holds that there are other forms differing in color reactions, which further investigations may show to be specific. Altogether, these observations seem to dispose for the present of Lustgarten's bacillus.

But with the annihilation of one microbe another is brought forward to take its place. In No 48 of the *Deutsche med. Wochenschrift* is a preliminary communication on this subject by DISSE and TAGUCHI, of the Medical Institution of Tokio, Japan, which, on paper, rivals as a comprehensive demonstration Koch's famous essays on tubercle. They claim to have discovered in the blood and lesions of syphilitic patients a bacillus with spores, which they have been able to cultivate in series and inoculate successfully in dogs, sheep, rabbits, and mice, with the production of a local lesion with induration and subsequent systemic infection. From the blood and tissues of the animal thus experimented upon, cultures could be obtained, and further inoculations were successful. The bacilli were demonstrated in the embryos of a pregnant rabbit two months after infection, and

in severe cases gummata were found in the placenta and liver, and in other syphilitic bone lesions. The possibility of the process being tuberculous was excluded.

LANOLIN: A NEW BASIS FOR OINTMENTS.

IN the *Berliner klin. Wochenschrift*, No. 47, 1885, Liebreich describes, under the term "Lanolin," a new basis for salves, for which are claimed certain advantages over the glycerine fats and mineral oils, such as vaseline. In the various keratin tissues—skin, hair, hoof, and feathers—the fatty acids are united with cholesterin, forming a peculiar fat, to which the name lanolin is given, as it can be most readily prepared from wool. One of its most remarkable properties is the power of taking up an equal bulk of water, but the difficulty with which it decomposes, and the rapidity with which it is absorbed, are the qualities which make it especially valuable in comparison with the neutral glycerine fats and vaseline. The readiness with which lanolin is absorbed by the skin is explained by the fact that it is the natural fat of epidermic tissues. Rubbing the hands with a 5 per cent. carbolic acid ointment made with it produces a sensation of numbness, without any irritation, in from one to two minutes, and a sublimate salve, 1:1000, will give the characteristic metallic taste a few minutes after inunction. The addition of 5 or 10 per cent. of fat or glycerine to lanolin is recommended as giving a better consistence to the ointment.

SOCIETY PROCEEDINGS.

NEW YORK SURGICAL SOCIETY.

Stated Meeting, November 24, 1885.

THE PRESIDENT, CHARLES MCBURNEY, M.D., IN THE CHAIR.

DR. R. J. HALL presented the following report:

THE BACILLUS OF SYPHILIS.

In May, 1885, Dr. Lustgarten published his pamphlet stating that by a new method, devised by him, of staining and bleaching syphilitic tissue, he had found in sections of the specimens examined, sixteen in all, a distinct bacillus; these bacilli were found in small numbers. In August, 1885, in the *Fortschritte der Medicin*, Bd. 4, No. 16, there was published an article describing Giacomi's method of staining the same bacillus.

Both methods have been used by Mr. Freeman, under the guidance and with the supervision of Dr. R. J. Hall. The Lustgarten method, though more troublesome, was the more satisfactory. The statistics given below were obtained from specimens stained by the Lustgarten method. 7 specimens of syphilitic tissue were examined; 5 primary, all typical hard chancres; 2 secondary syphilitic papules.

Specimen No. 1: No history; sections received already cut; typical hard chancre from prepuce. Section No. 1: Found 1 bacillus in a cell; found 2 bacilli in a cell; found 3 bacilli in a cell.

Specimen No. 2: No history; typical hard chancre from prepuce. Section No. 1: Found 1 bacillus in a cell; found 1 bacillus in a cell; found 3 bacilli in a cell. Section No. 2: found 2 bacilli in a cell; found 18 bacilli in a cell. "A flat cell in a condition of granular degeneration, no nuclei being visible. Counted in it 18 bacilli exactly corresponding to Lustgarten's description, and one or two dots which might be portions of bacilli partially concealed through lying obliquely." Section 3: negative.

Specimen No. 3: Typical hard chancre; August 11, 1885; William Muller, age sixteen. Six weeks ago sore appeared at peno-scrotal junction with a simple balanitis; connection one or two weeks previous; three weeks ago inguinal glands enlarged, and eruption on legs. Examination: *Typical hard chancre;* primary roseola on abdomen; syphilitic buboes; chancre excised. Microscopic examination: Section No. 1: Negative. Section No. 2: Found 2 bacilli in a cell; found 1 bacillus in a cell. Section No. 3: Negative.

Specimen No. 4: Syphilitic papule; August 11, 1885; Rudolph Bogli, aged nineteen. Five months ago extensive chancroid with phimosis, was circumcised; now lymphatics swollen; 2 characteristic syphilitic ulcers on right forearm; several indurated papules on scrotum; *large indurated papule*, ¾ inch in diameter, greatly resembling a primary chancre, on line of circumcision; no other secondary symptoms; induration on penis excised. Microscopic examination: Section No. 1: 2 bacilli in a cell. Section No. 2: None. Section No. 3: None.

Specimen No. 5: Typical hard chancre; Richard Kane, aged thirty-six; *typical hard chancre;* first noticed sore eight days ago; had connection four weeks previously; no eruption; chancre excised. Microscopic examination: Section No. 1: Found none. Section 2: Found 1 bacillus in a cell; found 2 bacilli in a cell; found 1 bacillus in a cell; found 1 bacillus in a cell; found 1 bacillus in a cell. Section 3: found 1 bacillus in a cell.

Specimen No. 6: Syphilitic papule; Herbert Smith, aged twenty-nine; gonorrhœa eighteen months ago; last connection two months ago; two weeks ago noticed *indurated sore on prepuce* and enlarged glands in groin; a few days ago roseola; all these symptoms present; induration excised. Microscopical examination: Section No. 1; found 1 bacillus in a cell; found 1 bacillus in a cell; found 1 bacillus in a cell. Section No. 2: found none. Section No. 3: found none. Section No. 3: found 1 bacillus in a cell.

Specimen No. 7: Syphilitic hard chancre; September 21, 1885; Joseph Grassley, aged nineteen; ten days ago connection; four days ago *sore on prepuce;* size, split pea; hard base covered with yellowish material; excised. Microscopical examination: Section No. 1: found 3 bacilli in a cell; found 2 bacilli in a cell. Section No. 2: found none. Section No. 3: found 1 bacillus in a cell; found 1 bacillus in a cell.

Stated Meeting, December 8, 1885.

DR. H. B. SANDS read a paper on

RUPTURE OF THE LIGAMENTUM PATELLÆ, AND ITS TREATMENT BY OPERATION.

(See page 701.)

DR. R. F. WEIR exhibited the patient treated in St. Luke's Hospital for rupture of the ligamentum patellæ, who was referred to in Dr. Sands's paper. The accident occurred in 1869. The patient, a man, æt. 47, while crossing the street, slipped and fell, but did not strike the knee. The rupture resulted apparently from his attempts to save himself from falling. He was taken immediately to the hospital. The patient was recently looked up, and when asked, in the absence of a written history, upon which side the accident occurred, said the left, but he had since thought over the matter a good deal and was unable to say positively whether the right or the left leg was affected. The result is a remarkably good one, both as to function and physical appearances. The patient can use the one limb as well as the other. Dr. Weir was unable to detect any difference in the appearance or length of the two patellar ligaments. The man was treated in the hospital about a month by a plaster-of-Paris splint. He then went home, and by incautious walking got up a synovitis, and was confined to his house for another month.

Dr. Weir said four cases of rupture of the ligamentum patellæ had come under his notice, the first being during his interne service in the New York Hospital, and was probably the one reported by Dr. Sands as occurring in that hospital under the care of Dr. Markoe. The second was the one presented to-night. The third occurred in a gentleman from the West, treated at the Sturtevant House. The result is uncertain as to function, as he was treated only three or four weeks, when he went to his home, but union had satisfactorily taken place.

The fourth case, which, however, did not properly belong to the class referred to by Dr. Sands, occurred in a case of stiffness of the knee-joint supposed to be due to fibrous anchylosis of the patella, and in which an attempt was made to practise *brisement forcé* with the result, not of fracturing the patella, but of rupturing the ligamentum patellæ. It healed promptly.

Dr. Weir further reported that within the past two weeks he had been consulted by Dr. Loring, of Valparaiso, Indiana, about a case of a woman sixty-five years of age, who fell and sustained a rupture of the ligamentum patellæ on the left side, from muscular violence. The gap was now the breadth of a hand, and the limb was incapacitated except with the use of a posterior splint which enabled her to get about by the aid of crutches. The case was additionally interesting as having occurred in a female.

Dr. Weir thought it is not generally enough recognized that the ligamentous band uniting the fragments of a fractured patella is frequently stronger than the bone itself.

Dr. Weir remarked that it had been suggested, as a means to overcome the distance between the fragments of a fractured patella, to fracture the thigh bone. May this not be resorted to as a last measure in certain instances, where an operation is required, when the scoring of the quadriceps muscle will not permit the approximation of bony fragments in fracture of the patella, or of the tendon ends in rupture of the ligamentum patellæ?

Dr. L. A. STIMSON said that the creation of a gap in cases of rupture of a tendon at its lower end is not produced solely by contraction of the muscle, as of the quadriceps femoris, but is produced in part, as in Dr. Sands's case by retraction of the ligament itself. This has been observed constantly after fracture of the patella, and it is one of the reasons why it is so difficult to obtain union without a gap after that accident. Fracture of the thigh will not overcome a gap due to that cause.

THE PRESIDENT suggested the substitution for fracture of the thigh bone in certain cases for overcoming the gap, division of the patella, trusting to the well-known facility of formation of a ligamentous band to unite the divided patella. This procedure may be resorted to in some cases in which the separation is great and cannot be overcome by partial division of the muscle.

POTT'S FRACTURE AT THE ANKLE.

DR. L. A. STIMSON presented a specimen illustrating a common fracture, but one in which we seldom have an opportunity to obtain the injured parts for study. The patient was sixty years of age, and sustained Pott's fracture at the ankle from a fall apparently caused by a cerebral lesion. He died three days after admission to the hospital. The characteristic deformity of the fracture was present, and crepitus was much more marked than usual. At the autopsy the fracture was found to be very oblique, beginning in front an inch and a half above the tip of the malleolus and extending upward and backward more than two inches. The internal lateral and lower tibio-fibular ligaments were ruptured, and the outer malleolus was displaced from a half to three-quarters of an inch outward from the tibia. There was no fracture of any other part.

THE AMERICAN PUBLIC HEALTH ASSOCIATION.

Thirteenth Annual Meeting, held at Washington, D. C., December 8, 9, 10, and 11, 1885.

(Specially reported for THE MEDICAL NEWS.)

WEDNESDAY, DECEMBER 9TH.—SECOND DAY.
MORNING SESSION.

DR. P. H. BRYCE, Secretary of the Provincial Board of Health, Toronto, Canada, then read a paper on

SMALLPOX IN CANADA, AND THE METHODS OF DEALING WITH IT IN THE PROVINCES.

He stated that he felt like a lawyer before a criminal court, pleading for a client who had boldly declared himself "not guilty" of an epidemic of smallpox. He then proceeded to relate the particulars of the outbreak of the present year, and stated that it was not until a prominent politician had died of the disease that the entire outside world awoke to the situation. The number of deaths was about 3100. Unfortunately, the epidemic was not confined to Montreal alone. Among the French the system of sanitation was unable to grapple with the disease. Knowing this, the health authorities of Mon-

treal provided the local boards of health with instructions, and did everything in their power to ward off the danger. He entered into a full description of the means taken to prevent the spread of the disease. All goods, and all people passing in and out were strictly examined, the railway companies assisting in the work of inspection. Every car was examined, and all the railway officials were vaccinated. A list of streets and numbers in Montreal were furnished, and passengers were questioned as to their residence, and if it was found that they lived in an infected neighborhood, they were detained for a time, and their baggage fumigated. Similar precautions were taken in the Province of Quebec. He thought it very creditable to Ontario that no case of disease, so far as known, had passed through their internal quarantine to the neighboring States, and he thought the quarantine at Suspension Bridge should be removed.

DR. HINGSTON, president of the Central Board of the Province of Quebec, said that he could not help thinking that Dr. Bryce's paper was very strong from an Ontarian point of view. Montreal has been afflicted as perhaps no other city on this side of the Atlantic. But, on the other hand, he wished to say that never did city make such tremendous efforts to get rid of an epidemic as did Montreal. Smallpox did not originate in Montreal. It did not drop as the dew from heaven upon the earth beneath, it came to us from outside our province. I shall not say whence it came. It was traced from one place to another, then to some State in the Union which has no State Board of Health. Let us leave it there. If there are any states in the Union which have not State Boards of Health, it will be a good excuse for their creation. There is no denying that when it did come, however, a section of the city, the most thickly settled quarter, was unprepared to receive it; that is to say, it was prepared to receive it well and to house it. The soil was well prepared to receive it. In Montreal for several years past, pamphlet after pamphlet has been printed and distributed, disseminating anti-vaccination views. Unfortunately, too, the beautiful French language has been the medium of conveying these views.

Now, it must not be imagined that the population of Canada is not a vaccinated population, but in consequence of the dissemination of these views in regard to the uselessness of vaccination, the population of Lower Canada, at least of Montreal, is not a vaccinated population. The writing against vaccination began twelve or fifteen years ago in the French language, and great mischief has been done. Notwithstanding the severity of the epidemic to which we have been exposed, these views are still being disseminated, but the public press has been ashamed to yield its columns to that purpose. So, after the epidemic began, we had to begin by educating that section of the people. What added to the difficulty was this: A certain portion of the population had to be approached in a different way from other sections. A prejudice existed against civic vaccination. When the erysipelas developed after vaccination, or something of the kind happened, the anti-vaccinationists would ascribe it to the use of impure vaccine virus, and thus a certain class of people would become more and more opposed to being vaccinated. That, however, has happily altogether disappeared, and we are indebted in a large measure to the commercial people of our city for this. They made it a rule that no one should be employed in factory, store, or warehouse without a certificate of vaccination, and also a certificate showing freedom from infection in their homes and houses. This regulation was adopted by both the Ontario and American authorities; persons who were imbued with anti-vaccination views found when they crossed the frontiers to the United States, they were met by a gentleman who politely but firmly told them, "You cannot enter our territory until you show marks of recent vaccination." In that way our hands were strengthened. Indeed, we have accomplished more in a few months than otherwise we could have accomplished in as many years.

Ontario was comparatively free from infection and they were as anxious to preserve their province as the people of the United States were to protect theirs. The City of Montreal accomplished more, I think, in regard to vaccination than has been accomplished by any city of the same size in the same period of time; and this was accomplished by writing and disseminating pamphlets, by using the public press, and by organizing vaccination bureaus.

Montreal is peculiarly situated. It is a city of 180,000 inhabitants. But it has a large outlying population which would not come into line. The Government of Quebec, finding that the City of Montreal could not deal with this outlying population, made it into a distinct municipality, with a board of health to which arbitrary powers were given. Montreal is situated 180 miles from the seat of Government, and it had to create legislation. But the rules and regulations were sent by special messengers, and within forty-eight hours the regulations became law. If there was any want of diligence, it was not with the Government, but with the authorities. Vaccination has been accomplished on a very large scale. Isolation was found difficult.

What was the position of Montreal on the 28th of February last? There was not a place prepared for isolation. The city had been free from smallpox for several years: it had not taken precautions to have a building ready. Its population was not vaccinated. Thanks to the ideas which prevailed, thanks also to the opposition created in the minds of many, by writers in the French language, at the beginning of that epidemic, there was no building into which a person suffering from smallpox could be placed. A little censure has been passed upon us for this reason; and it was said that the patient who first came to Montreal was admitted to the general hospital. The statement is true and untrue. He was admitted to the largest building in the city, but with a wing more completely isolated than any other building in Montreal; and it is yet to be shown that a single case occurred in his vicinity. It was found to be almost impossible to get persons to leave their houses when afflicted with the smallpox. In some cases it was necessary for the Mayor, followed by the police, to go and by force remove them. Indeed, in the minds of some lawyers and some judges of our courts, it was conceded that the law had been exceeded by the authorities; but the people were prepared to go beyond the law, or even break the law, to carry out sanitary regulations.

First of all, a building was procured, but was soon crowded. Influential persons had to go from house to house and coax and threaten, and induce cases to enter

it. What did Montreal do? It took the largest, the handsomest, the best situated building in the town, that for many years has served the purpose of an exhibition building, and there complete isolation was obtained.

Then, again, objection was made to the placards. Sometimes persons were maltreated who were engaged in putting up these placards, and at first no sooner were the placards put up than somebody tore them down. But by perseverance we finally succeeded, and now when a placard goes up it stays until it is taken down by the authorities. The same way with disinfection. But we finally succeeded in this also, and it has been carried on in accordance with the most recent views on sanitary science.

Another difficulty was that smallpox existed amongst a large section of the poorer population, and they had to be supported. A thoughtless man, and one who looks only from the sanitary point of view, is apt to put a placard on the door, and leave the place. Yet if this is done, the baker and other tradesmen will be afraid to go to that house, for fear their customers will think them contaminated. So we had to go to work and support these families, and hundreds and thousands were supported by the city. It was done cheerfully, not only by the employés, but by a large number of citizens, able and intelligent citizens, who coöperated with the city.

The provincial board of health had also its work. It had, first of all, to formulate rules and regulations concerning every question. After they were completed, it was found by a lawyer that certain links were wanting, and they had to be supplied in the French and English languages. Rules had to be laid down for isolation and vaccination. The rules for vaccination cost him seven or eight nights of intense work. They had to enlist the clergy and physicians in the cause. In that way they got, in a short time, boards of health over almost the entire Province of Quebec.

We were assisted by the railroads. They coöperated with the provincial board, and sometimes at great sacrifices. When we pointed out that at such a place on the railroad line there was disease, and we could get no assistance whatever, the order went forth to pass that place. In that way we accomplished much. Generally before twenty-four hours the municipality was upon its knees, coming to us and asking for relief. Without the railroads we never could have done what we did. They may have exceeded their authority a little in doing this, but it was no time to strain at a gnat. They are public carriers, and by their charter they are obliged to stop at certain places, and an action for damages might arise if they failed to do so, but these railroads are prepared, and I hope every railroad will be prepared, to act in the same manner.

Assistance was obtained from the Minister of Education. Instructions were sent to the schools and colleges to receive no pupils without a certificate of freedom from infection in their houses, and freedom from disease in their persons. The schools and colleges and seminaries of learning coöperated with the board very cheerfully. There were but two institutions that would not yield, but they were very glad to yield before many days passed, because we held them up, or threatened to hold them up, to public scorn and contempt.

The provisional government of the province of Quebec also coöperated with the board.

Shortly after the Board was formed, a law was passed requiring compulsory vaccination, and boards of health were instructed to vaccinate. But, compulsory vaccination, to be successful, must depend on a law of public registration of births. We have no law for the compulsory registration of births as in European countries. In Germany they have a law of compulsory vaccination, but they have also a law of compulsory registration of births. When a child is born, its birth is registered and a certificate of birth is procured. What we propose doing at the next session of the legislature is to obtain a law of compulsory registration of births, and compulsory vaccination will follow as a matter of course. As it is now, there is no machinery by which it can be done. You go to a man's door and you ask if there is a child under a certain age. He may say yes or no, or he may tell you to go about your business. But with compulsory registration, an officer can sit in his office and make out a list of so many people of such a street and number and name not yet vaccinated. After notification they must have a certificate of exemption within five or ten days, or else we will step in and know the reason why.

Dr. Hingston then alluded to the death-rate of Montreal. It has been stated by Dr. Bryce to be about 3000 persons in a population of 180,000. That is an enormous mortality. The death-rate, however, according to months, may be of interest. The death-rate in April was 6, in May 10, in June 13, in July 40, in August 239, in September 660, in October 1391, still on the increasing scale. It suddenly dropped then to one-half. It dropped from 1391 to 633, and from 633 again to 300.

Now this is an enormous death-rate. The death-rate is large, but he was happy to say the birth-rate is simply enormous. No country in the world, no country anywhere, can give such a birth-rate as the Province of Canada.

DR. STEUART called attention to one thing that had not been touched upon. That is the danger that occurs from public funerals. If the health officer and the authorities of every city where smallpox occurs would prevent public burials of smallpox patients, the danger would be very much lessened. In an epidemic that occurred in Baltimore two or three years ago, the great start the disease obtained was from a public funeral, which took place in a church. Five or six hundred people were present, and in that locality within two or three weeks the disease was dotted around in four or five houses, and hundreds of cases came from that one case. The authorities should take possession of a house and watch every case as soon as it is reported, and have reports made daily to the health authorities, and, when death occurs, destroy everything that has been in contact with the patient, and disinfect the house properly, and more especially the body.

DR. C. W. CHANCELLOR, Secretary of the Maryland State Board of Health, then read a paper entitled

IMPURE AIR AND UNHEALTHY OCCUPATIONS AS PREDISPOSING CAUSES OF PULMONARY CONSUMPTION.

He said that in England one-fifth of all the deaths are from pulmonary consumption; in France one-sixth, and in Germany and Austria about one-seventh. In the United States, according to the Census of 1880, one-eighth of the deaths were from consumption. Pure air

is as essential to health as pure food and drink. When contaminated from any cause, it acts as a slow poison, and gradually undermines the constitution. Too little attention is paid to the proper ventilation of living apartments. The sallow complexions of persons living in apartments not properly ventilated plainly indicate the injurious effects produced by the poisonous air they breathe, and although its pernicious effects may not be sensibly felt, it gradually preys upon their constitutions, and is often the cause of incurable consumption, which is frequently imputed to other causes. It is true that some occupations are more unhealthy than others. Inhabitants of cities are undoubtedly less hardy and more subject to pulmonary diseases than those of the country. City people are generally pale, and their muscular system is poorly developed. Want of a free circulation of pure, uncontaminated air is the most powerful cause of this. In addition, in cities there is more to excite the passions. Overindulgence in eating and drinking is more common, while many of the occupations are sedentary and more unhealthy than those in the country. Salesmen are liable to disease because they are constantly in a superheated and more or less impure atmosphere, and often exposed to sudden changes of temperature. Artisans and laborers are often compelled to work in rooms badly located, badly ventilated, and abounding in unhealthy dust. Under such circumstances the most substantial nourishment, the most temperate habits, cannot prevent them from becoming blanched and weakened by disease. A number of statistics showing the relative length of life of different workers was then given. He said the problem was, how to environ each worker in a pure atmosphere. The solution of the problem could be easily suggested by the sanitary engineer, but its execution was a matter for the several State Legislatures to control. He thought it very desirable that consumption hospitals should be established in every city.

EVENING SESSION.

DR. E. M. HARTWELL, of Johns Hopkins University, read a paper upon the

GERMAN SYSTEM OF PHYSICAL EDUCATION,

in which he described the origin of gymnastics in Germany, beginning in the year 1700. In the city of Berlin every child at school is taught the physical exercises two hours in each week. Every one in Germany has to undergo such training. The men are so trained for the army; and upon entering it they have to undergo a further severe course of training, the results of which are apparent in the physical endurance and courage of the soldiers. A German soldier, with his musket and accoutrements, can scale a twenty-foot brick wall, or jump an iron-spiked fence, without danger of catching his clothing in the spikes. In the German schools gymnastics are compulsory, and of the pupils less than 10 per cent. are exempt, and then only upon the certificate of a physician. There are in Berlin ninety-eight gymnasiums; and in 1880 and 1881, of the $1,760,000 appropriated by the city for educational purposes, one-thirtieth of that amount was expended for gymnastics. In 1885 there was appropriated, for the Royal Normal School of Gymnastics, something over $21,000, and teachers from all parts of the empire go there to learn, so that they may go back to teach their pupils. Officers of the army become pupils, so that they may teach the soldiers. The speaker thought we could not do better than to introduce the system in this country; of course, adapting it to our institutions, thus enabling our youth to bear the strain of study.

DR. O. W. WIGHT, Health Officer, of Detroit, Mich., then read a paper on

EXPERIENCES IN DISINFECTING SEWERS.

He described the bad condition of the sewerage of Detroit, the lack of system in its construction, stating that very frequently large sewers are so connected as to empty into smaller ones, and that outlets are often higher than inlets. He gave a humorous account of the difficulties encountered in his crusade against sewer gas, and the ridicule and opposition which greeted him when he proposed to disinfect the sewers. He stated that some time previous to his efforts in that direction, two medical men of the city had descended into one of the sewer manholes, and remained there, to use their own words, "twenty-five consecutive minutes," and upon ascending they reported that the air of the sewer was "chemically pure!" In spite of opposition, however, he entered upon the work of disinfection. First, he used 75,000 pounds of copperas, and the citizens joined him and used 200,000 pounds more, in the 200 miles of sewers in Detroit. He then purchased three tons of brimstone, and burnt it in iron pails let down into the manholes by chains. He found that the sulphurous acid gas travelled through the sewers faster than he could travel on the surface in his buggy. The penetrating odor of the gas discovered innumerable defects in house plumbing, and he related some very ludicrous scenes in that connection. It was found that the disinfection caused a marked diminution in the number of cases of diphtheria and scarlet fever—or almost a total cessation of those diseases. The whole cost was less than $1300.

The last paper read was that of DR. BENJAMIN LEE, of Philadelphia, entitled

THE DEBIT AND CREDIT ACCOUNTS OF THE PLYMOUTH EPIDEMIC.

His theory was that the epidemic originated from Philadelphia. He stated that there were 1153 cases, which cost $59,100.17; hospital cases, $8000; loss of earnings to patients and others, $30,020.08; capital represented by loss of income of 114 persons who died, $613,984; Total, $711,104 25.

RHODE ISLAND MEDICAL SOCIETY.

Semiannual Meeting, held at Providence, December 17, 1885.

(Specially reported for THE MEDICAL NEWS.)

THE PRESIDENT, OLIVER C. WIGGIN, M.D., IN THE CHAIR.

THE Committe appointed at the last quarterly meeting to consider a communication from the American Medical Association upon

STATE REGULATION OF THE PRACTICE OF MEDICINE,

reported as follows: "It is our opinion that an Act to regulate the practice of medicine would prove of very

great value to our citizens, and, if presented in a proper form, would be readily adopted by the Legislature. But we do not believe that the proposed Act referred to is well adapted for the purpose, as it is not only lengthy and cumbersome, but would establish a new branch of the State Government, and on this account alone would be sure to meet with strong opposition. We suggest that a better plan would be to place the licensing power in the hands of the State Board of Health, making such changes in the constitution of the Board as will be necessary."

The report was adopted.

The Chair then announced the following appointments:

DELEGATES TO MEDICAL SOCIETIES.

Maine.—Drs. A. D. Weeks and W. H. Traver.

New Hampshire.—Drs. W. F. Hutchinson and G. W. Jenckes.

Vermont.—Drs. E. M. Snow and W. R. White.

Massachusetts.—Drs. E. T. Caswell and W. F. Morrison.

Connecticut.—Drs. A. G. Browning and W. H. Palmer.

New York Medical Society.—Drs. C. O'Leary and A. Potter.

New York Medical Association.—Drs. S. W. Francis and J. H. Morgan.

New Jersey.—Drs. F. B. Fuller and C. H. Fisher.

BOARD OF MEDICAL EXAMINERS:

Drs. G. W. Carr, term to expire in 1886; F. B. Fuller, term to expire in 1887; J. W. Mitchell, term to expire in 1888; R. F. Noyes, term to expire in 1889; Charles O'Leary, term to expire in 1890.

The Board of Censors also nominated Dr. William R. White for

ANNIVERSARY CHAIRMAN

at the next annual meeting, and the nomination was approved by the Chair.

DR. GEO. F. KEENE read a paper upon

A NEW METHOD OF TREATING COLLES'S FRACTURE,

and showed a new splint of his own devising, made of a piece of telegraph wire bent first into the shape of a hairpin and then bent upon itself some three and a half inches from the curved extremity, nearly at right angles. The larger and free ends of the wire were united by two pieces of tin, looped over each, the tin being slightly curved so as to fit the shape of the arm. This splint, suitably padded, is to be applied to the palmar surface of the forearm, with the palm of the hand resting against the bent loop of wire, in a position of *extension* on the forearm, rather than flexion, as is the case when the ordinary splints are used. Dr. Keene had used his splint in three cases with most satisfactory results.

DR. CASWELL said Dr. Keene's idea was contrary to all previous positions recommended in the treatment of this injury, and that he should like to give it a trial. His own impression was, however, that if the fracture be properly reduced at the outset, it makes little difference what apparatus is employed subsequently, provided passive motion is employed early enough.

DR. W. F. MORRISON reported

A CASE OF PYELONEPHRITIS,

and showed a specimen which was a right kidney weighing fourteen ounces, and containing five pouches which had been found to be filled by about four ounces of pus, altogether. These sacs or pouches were about the size of English walnuts. In three of them were imbedded brownish calculi, respectively 2, 1¾, and 1½ inches in length, about ½ inch in diameter and of irregular shape. The patient was a woman forty-four years old and a correct diagnosis was made some weeks before her death.

A paper on *Nasal Catarrh; Its Immediate and Remote Effects*, by Dr. F. P. Capron, was read by its title and referred to the Publication Committee.

THE PRESIDENT read a paper on

CLINICAL OBSERVATIONS ON THERMIC FEVER.

The clinical history of three cases of sunstroke was given in detail. All were successfully treated. In one case cerebral meningitis developed, which the writer thought would probably have been prevented if venesection to the extent of two or three pints had been performed at the onset. In another case the patient, a woman, was, when first seen by the writer, in a condition so critical that death seemed imminent. She was made to inhale about a drachm of chloroform, which fortunately was available at the instant, and which apparently was the means of warding off death.

The method of treatment in these cases embraces the free application of cold water, or of hot water, according to the bodily temperature and the condition of the cutaneous circulation; the administration by the mouth or rectum, of a decoction of table tea (2 ozs. of Formosa to a pint of water), giving ℥ij every two hours; the elixir of the valerianate of ammonia; the bromides; the lancet or leeches to relieve cerebral engorgement.

THE CHAIR announced the

DEATH OF DR. JOHN W. SAWYER,

Superintendent of the Butler Hospital for the Insane, and one of the Vice-Presidents of this Society, which occurred on the 14th inst.

The following preamble and resolutions were adopted by a rising vote:

Whereas, An inscrutable Providence, who wounds only that through His own mysterious reasons He may really benefit, has taken from the Rhode Island Medical Society its beloved Vice-President, Dr. John Woodbury Sawyer; therefore

Resolved, That in Dr. Sawyer not only had the Butler Hospital a medical superintendent whose first and only thought was the welfare of the unfortunates whom it was his duty to protect, to care for, and to heal, but a judicious adviser, who added much to its previous reputation as a model institution.

Resolved, That the loss of Dr. Sawyer is one equally great to the city of his residence and to the State at large, so many of whose citizens have had occasion to require his kindly skill.

Resolved, That the Rhode Island Medical Society mourns its deceased brother, whose mere acquaintance was a pleasure, and whom to know was to love. Gentle and yet decided, modest always, and wholly forgetful of self, learned in his special department of professional labor, and yet inferior to none as a general practitioner, his death leaves a void which time can but imperfectly fill.

Resolved, That the President and Secretary, in behalf of every member, tender to the bereaved widow and orphaned son of the deceased their sincere and heartfelt condolence, and their sense, not only of collective, but of personal, bereavement.

Resolved, That a committee be appointed by the Chair to attend the funeral of Dr. Sawyer in behalf of this Society, as an additional mark of sympathy and respect.

CORRESPONDENCE.

EXTRAUTERINE PREGNANCY CHANGED TO INTRAUTERINE BY FARADIZATION.

To the Editor of THE MEDICAL NEWS.

SIR: I have just read Dr. Garrigues's case of "Extrauterine Pregnancy Changed to Intrauterine by Means of Faradization," in your issue of the 12th inst., and would like to call attention to the fact, not mentioned by Dr. Garrigues, that in 1878 I reported a similar case to the New York Obstetrical Society (meeting June 11, 1878, see *Am. Journ. Obs.*, vol. xii. p. 330, 1879), in which the presumptive diagnosis of tubo-uterine pregnancy on the left side was made, with as much certainty as can exist in any such case, by the attending physician and myself, and in which the uterus was found empty, and spontaneous delivery of a three months' fœtus occurred on the next day.

In that report I spoke of McBurney's case (referred to by Garrigues), and also those of Poppel, Monteil, Pows, and Braxton Hicks (not mentioned by Garrigues), where, in a tubouterine gestation, the tubal orifice was so dilated as to allow the ovisac to protrude into the uterine cavity; and also the case of Lenox Hodge, who dilated the uterine orifice of the tube, and thus induced the expulsion of the fœtus through the natural passages.

As my case seems to have been overlooked, I hereby desire to recall it to the attention of the profession. The success of electricity in inducing contraction of the tube and propulsion of the fœtus into the uterine cavity was, I believe, accidental in McBurney's case, where the galvanic current was employed, and the object was to kill the fœtus in a supposed tubal pregnancy; the adaptation of faradism to the former purpose is ingenious, and, I think, worthy of trial; although success can be hoped for only when the uterine orifice of the tube and the uterine cavity itself are already dilated, when the ovisac protrudes into the uterine cavity, and when the circular fibres of the tube are well developed. In case of failure to produce the intrauterine propulsion of the ovum, the faradic current most probably will do no harm, since the destruction of the fœtus must be the next best result to be obtained from that treatment.

Respectfully,

PAUL F. MUNDÉ.

20 WEST 45TH STREET, NEW YORK,
December 19, 1885.

NEWS ITEMS.

HARVARD UNIVERSITY.—Dr. J. P. Reynolds has resigned the Professorship of Obstetrics in the Medical School of Harvard. It is stated that his course will be completed by Dr. William L. Richardson, the present Assistant Professor of Obstetrics in the School.

THE ALUMNI ASSOCIATION OF THE WOMAN'S HOSPITAL IN THE STATE OF NEW YORK will hold its first meeting at the New York Academy of Medicine, Wednesday, January 20, 1886. The order of exercises comprises a morning session from 9.30 A. M. to 1 P. M. After the address of the Chairman, Dr. James B. Hunter, papers will be read on The Treatment of Cancer of the Uterus; High Amputation *vs.* Total Extirpation, by Dr. William H. Baker, of Boston; on The Use of the Uterine Dilator in the Treatment of Dysmenorrhœa, and as an Aid in Intrauterine Therapeusis, by Dr. W. Gill Wylie, of New York; and on Local *vs.* General Treatment in Gynecology, by Dr. Andrew F. Currier, of New York.

An afternoon session will be held from 2 to 5 P. M., and papers will be read on The Non-surgical Treatment of Anterior Displacement, by Dr. P. H. Ingalls, of Hartford; A Brief Study of the Causes of Retroflexion and Prolapse of the Uterus, by Dr. George T. Harrison, of New York; and on The Exaggerated Importance of Minor Pelvic Inflammations, by Dr. Henry C. Coe, of New York. In the evening a business and social meeting will be held at 8 P. M.

THE ANNUAL ADDRESS BEFORE THE ACADEMY OF SURGERY OF PHILADELPHIA will be delivered by Dr. R. J. Levis, on Monday evening, January 4th, at 8 o'clock, at the Hall of the College of Physicians. Subject, "Impediments to the Progress of American Surgery."

DEATH OF MR. T. JOLLIFFE TUFNELL.—T. Jolliffe Tufnell's treatment of aneurism is known in all civilized countries, and it was a subject of which he made a lifelong study. Probably the last time he spoke in public was during the last session of the Academy of Medicine, when, consequent on a discussion which took place on a case of aneurism of the abdominal aorta, he recapitulated the most important points in the treatment which he believed to be essentially necessary. Mr. Tufnell was a Fellow of the Medico-Chirurgical Society of London, and a Fellow of the Academy of Medicine in Ireland. His contributions to medical literature included the following monographs: "The Treatment of Aneurism by Compression;" "The Successful Treatment of Internal Aneurism;" and "Stricture of the Rectum, with a new form of Bougie." He died on the 29th ult., at the age of sixty-seven, after a tedious illness.—*The Lancet*, Dec. 5, 1885.

LONDON ANTHROPOLOGICAL SOCIETY.—At a meeting of this Association, held on Tuesday week, Mr. Francis Galton, F.R.S., the President, exhibited, on behalf of Dr. Billings, of the United States Army, a collection of composite photographs of skulls. There were in all 20 photographs, forming four series, referring respectively to Sandwich Islanders, ancient Californians, Arapahoe Indians, and Witchitaw Indians, and each composite was the mean of six adult male skulls.—*Medical Times and Gazette* (London), Dec. 5, 1885.

THE OUTLOOK FOR THE CONGRESS.—The present Executive Committee has invited the former Committee to unite with it in its work of organization, but this invitation was declined by the Original Committee, except upon the condition that the present Executive Committee unite with them the Original Enlarged General Com-

mittee, and recommence the organization *de novo*. We are not informed whether the present Committee, which professes to have such a deep interest in the success of the Congress, has assented to this proposition. It seems to us that the plan proposed is the only harmonious solution of the differences which has been presented. This proposition gives a definite shape to the present muddle and enables all of the discordant elements to meet upon a common platform. A new Committee, consisting of the Original Committee of eight, of the Original Enlarged Committee, and of the present Executive Committee, unrestricted by former appointments, would be able to organize the Congress on an entirely new basis. The appointments of this Committee would be made from the entire profession, and would, no doubt, be given to men who best represent the American profession. The question of the "Code," the aspirations of ambitious office-seekers, the claims of Colleges and sections, and the demagogues in the profession would, no doubt, be relegated to the background. If it is upon the basis of this plan of organization that the present Executive Committee is warranted in announcing the success of the Congress, we believe its assurances will be verified. Upon any other basis we do not think the Congress will prove a success, and we shall believe that the assurances of the Executive Committee are but empty and hollow promises. We trust a solution of the present differences may be reached after the plan proposed, and that the profession will then join hands over the chasm and work for the success of the Congress of 1887.—*Maryland Medical Journal*, Dec. 19, 1885.

The Medical Record gives the following editorial note from the *St. Petersburg med. Wochenschrift* of Nov. 21: "The prospects of the next International Medical Congress, which was to meet in 1887 at Washington, have lately, in an unusual manner, been put in jeopardy. The original Organizing Committee, of which, as announced by us in previous communications, the well-known Surgeon-General of the U. S. Army was secretary-general, and to which the most distinguished American physicians belonged, has been retired. This was accomplished through the intrigues and hostility which developed at the last annual meeting in New Orleans. At this time a new committee was appointed under the presidency of a Dr. Shoemaker, of Philadelphia. This new organization committee contains but a few of the members of the previous committee, and is composed mostly of unknown and insignificant physicians, who inspire no confidence in their capacity for conducting the Congress. Under such circumstances any coöperation from foreign countries can hardly be expected."

OBITUARY RECORD.—DR. JOHN W. SAWYER, Superintendent of the Butler Hospital for the Insane, Providence, R. I., died at that institution, on the 14th inst., of blood poisoning, after an illness of only three days.

Dr. Sawyer was fifty-one years of age. He was formerly assistant physician at the same hospital, then under the superintendence of the late Dr. Isaac Ray. Subsequently he was Superintendent of the Madison Hospital for the Insane, in Wisconsin. At the close of the year 1866, upon the resignation of Dr. Ray, Dr. Sawyer became Superintendent of the Butler Hospital, which position he has since filled with marked ability and to the complete satisfaction of the Board of Trustees.

Wholly devoted to his special line of work, Dr. Sawyer rarely allowed himself any recreation or rest from the exacting duties of his position, but was persuaded to spend three months in Europe during the past summer. In appearance a quiet, unobtrusive man, he possessed the firmness and courage essential to success in his specialty, as an expert in which his opinion was much sought and esteemed, both in the medical profession at large and in courts of law.

—— At New York, on December 20, 1885, of pneumonia, after an illness of only two days, JOHN C. DRAPER, M.D., Professor of Chemistry and Physics in the Medical Department of the University of the City of New York.

Prof. Draper was born in Virginia, on March 31, 1835, and was the oldest son of the late Professor John H. Draper. He received his early education at the University of the City of New York, but in 1854 he left that college in his junior year to begin the study of medicine. Three years later he was graduated from the Medical Department of the University. In the last year of his school life he held the position of house physician and surgeon in Bellevue Hospital. The year following his graduation was spent in Europe, where he continued his medical studies. In December, 1858, he was made Professor of Analytical Chemistry in the University of the City of New York. He held the position for thirteen years. From 1860 to 1863 he was Professor of Chemistry in the Cooper Institute. During the Civil War Dr. Draper served for six months as a surgeon on General Ward's staff at Harper's Ferry, and was there at the time of its surrender. In 1863 he occupied for the first time the chair of Natural History in the College of the City of New York, which he has since held. In 1866 he became Professor of Chemistry in the Medical Department of the University.

As an author, Professor Draper was widely known. His original researches were made in the domain of chemistry, embracing all its branches, and always having a distinct bearing on the advancement of medical knowledge and practice. Professor Draper published his first book in 1865, it was a text-book on anatomy, physiology, and hygiene. He edited Scribner's *Year Book of Nature and Science* for 1872, and Draper's *Year Book of Nature and Science* the year following, and up to 1876; he also edited the department under this head in Scribner's *Monthly*. Besides a large number of scientific papers of considerable importance published subsequent to this, Professor Draper published, in 1882, a *Practical Laboratory Course in Chemistry*. His last work was a text-book of *Medical Physics*.

THE MEDICAL NEWS *will be pleased to receive early intelligence of local events of general medical interest, or of matters which it is desirable to bring to the notice of the profession.*

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